

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

5 Applicant: Chia-Fu Chang

Filing Date: 06/25/2003 Art Unit: 2875

Serial No.: 10/604093 Docket No.: ELUP0003USA

Title: LED LIGHT SOURCE HAVING A HEAT SINK

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To: Commissioner for Patents

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JUL 27 2004

15 Subject: Preliminary amendment for the above-identified application.

Dear Sir:

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INTRODUCTORY COMMENTS

Claim 1 of the application is amended to differentiate from a prior art patent cited by the Taiwanese examiner. Claims 2, 5, 7, 8 are amended to fix grammatical errors. No new matter is introduced by the amendment. Allowance of the amendment is requested.

AMENDMENTS TO THE CLAIMS

1. (currently amended) A light emitting diode (LED) light source comprising:
 - 5 a printed circuit board (PCB) having a plurality of holes; a heat sink connected under the PCB for conducting heat; a plurality of heat conductors protruding the heat sink and formed on the heat sink corresponding to each hole of the PCB for conducting heat, each heat conductor having a basin on the topside; and
 - 10 at least one LED chip attached to the basin of the heat conductor.
2. (currently amended) The light source of claim 1 further comprises comprising a plurality of conductive metal wires connected between an electrode of the LED chip and an electrode of the PCB.
3. (original) The light source of claim 1 wherein the material of the heat sink is aluminum.
4. (original) The light source of claim 3 wherein the material of the heat conductor is aluminum formed from the aluminum heat sink.
- 25 5. (currently amended) The light source of claim 1 further comprises comprising an adhesive for fixing the LED chip.
6. (original) The light source of claim 5 wherein the adhesive is epoxy or silver epoxy.
- 30 7. (currently amended) The light source of claim 1 further

~~comprises~~comprising a housing for reflecting light and helping transmit heat.

8. (currently amended) The light source of claim 1 further
5 ~~comprises~~comprising a lens for focusing the light from the LED chip.